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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,973	08/07/2001	Rodger H. Rast	USLED_01	3148

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RODGER H. RAST
11230 GOLD EXPRESS DRIVE
SUITE 310 MS 337
GOLD RIVER, CA 95670

EXAMINER

MENGISTU, AMARE

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/924,973

Applicant(s)

RAST, RODGER H.

Examiner

Amare Mengistu

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-26,47-73 and 77-84 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-26,47-66,68-73 and 77-84 is/are rejected.
- 7) ☒ Claim(s) 67 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/22/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 1-15,27-46,74-76 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group V, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on August 17,2004.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 79-84 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally filed has failed to teach or disclose the recitation of claims 79-84 respectively ***“a display element ...said programming operation is preformed in response to receiving an external***

programming signal while said display element is in a programming mode which loads an address received in parallel by the display element as said first address into said memory”; “wherein said external programming signal comprises an optical signal”; “ wherein at least the portion of said memory configured for programming to a first address comprises a non-volatile memory”; “wherein said optical element, said memory, said extracting means and said modulating means are contained on, or coupled to, the same integrated circuit die” and” wherein said optical element, said memory, said extracting means and said modulating means are contained on at least two integrated circuit die which are coupled to one another and retained in said optical housing”.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claim 71 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. In claim 71, line 2 the phrase “***second address in-situ***” is not clear. What does ***address in-situ*** means? The phrase “***address in-situ***” is not understood or not defined in the specification either.

Drawings

7. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the ***“a display element ...said programming operation is preformed in response to receiving an external programming signal while said display element is in a programming mode which loads an address received in parallel by the display element as said first address into said memory”; “wherein said external programming signal comprises an optical signal”; “ wherein at least the portion of said memory configured for programming to a first address comprises a non-volatile memory”; “wherein said optical element, said memory, said extracting means and said modulating means are contained on, or coupled to, the same integrated circuit die” and” wherein said optical element, said memory, said extracting means and said modulating means are contained on at least two integrated circuit die which are coupled to one another and retained in said optical housing”***. must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 70 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by **Sharma** (6,157,366) (see, fig.1 (101,106); fig2 (205,210),(206,211)).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 16-18,21-26,47-50,57-59,61-66,68-72,77,78 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sharma** (6,157,366) in view **Suzuki et al** (5,734,361).

As to claims 16,25,47,50,57-59,61-64,69,72, **Sharma** discloses a display comprising: at least one optical elements integrated within a display element configured for display multiple optical states (see, Abstract); an input configuration for receiving an array position addressing signal contain array position clocking and data which are delivered in common to all said display elements within a single or multidimensional display (col.2, lines 51- col.3, lines 5, lines 65- col.4, lines 19, col.6, lines 53-64); a counter configured for maintain an array position count in response to detecting said array position clocking from said input (fig.2 (202,204)); a memory configured for retaining an array position (fig. 2 (205, 210)) (a first address), means for extracting output data from a data signal (fig.2 (208,213)), received in parallel by the display element in response to matching second address (fig.2 (206,211)) received on said data signal with said first address.

Sharma has failed to disclose a latch circuit, a drive circuit and a data signal modulator the output data signal. However, **Suzuki et al** (hereinafter **Suzuki**) discloses a display device having a latch circuit to output the received data (fig.8 (205)), a driver circuit (fig.34 (1709); fig.37 (2101)) and a modulating signal generator (fig.8 (209)).

Therefore, it would have been obvious to one skill in the art at the time of the invention was made to incorporate the comparison circuit of Suzuki's latch circuit,

driver and modulator into the device of **Sharma** since this will allow an efficient and an accurate optical driving method.

As to claims 17,54, **Sharma** is also discloses that the input comprises a single line coupled directly to each display element (fig.1 (101,105)).

As to claim 18, **Suzuki** also discloses a shift register coupled to said input (fig.8 (203,204) and configured to output the data to said latch (fig.8 (205)).

As to claims 21,22 **Suzuki** teaches that input signal (fig.8 (203)) is separate signal from/superimposed the power and ground connection (fig.8 (Va, Vx) and (ground)) of the display element.

As to claims 23,24,25, **Suzuki** also teaches array position clock and data are received for each array address in each cycle of an array position addressing signal (see, fig.34, col.26, 39-59), driver circuit is configured for modulating the optical state of each of said optical elements to wither an on or off stated in response to said data from said latch circuit (col.26, lines 31-38, 56-67).

As to claims 48,49, **Sharma** also discloses the first address includes at least one axis of address (fig.2 (205)), row and column address (fig.2 (205, 210)).

In regard to claims 51-53, **Sharma** teaches said means for extracting data configured for counting clocks on said data signal for determining said second address (col.7, lines 26 - col.8, lines 23). It is obvious that the **Sharma's** clock (fig.2 (202)) comprises row and column cloaks in order to clock the X and Y positions (fig.2 (205,210)). Furthermore, rests to determine the second address (fig.2 (206,211)).

As to claims 55,56,59, **Suzuki** also discloses means for modulating the output of the optical state of said at least one optical element is configured to update the optical state of said optical element at a fixed position within cycle of said data signal (col.10, lines 45-51, col.12, lines 29-41). It is obvious that said latch (fig.8 (205)) configured to output data signal to a predetermined (fixed) position occurs at the end of each data cycle.

As to claims 62-64,71,78,79, **Sharma** discloses programming the first address/ second address in response to the position of the display element (col.3, lines 33-36,col.7, lines 9 –17, 27-37).

In regard to claims 65-66 **Sharma** further discloses an optical detector within said display element, said optical detector configured for receiving said programming signal (col.7, lines 26-59).

As to claim 68, **Sharma** teaches that the output control data is received on the data signal in a sequential scan form or random form (col.8, lines 4-8).

In regard to claim 77, it is obvious that **Sharma's** display (fig.1 (106)) element is contained within an optical housing (106) configured with a transparent portion through which the state of said at least one optical element could be viewed.

As to claims 19,20,23 **Sharma** discloses wherein the memory is a register (205,206,210,211), but has failed to disclose the memory is a non-volatile. However, it would have been obvious to one skill in the art to have substituted **Sharma's** register memory with any types of memory including a non-volatile memory since any types of memory are available in a very large varieties to chose from.

As to claim 60, **Sharma** optical elements are pixels (col.2, lines 56-58), but silent as being LEDs. However, LEDs optical elements or multiple LEDs with color are well known (see the specification [0007], [0009]).

Allowable Subject Matter

12. Claim 67 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter: the cited references have failed to teach applicant's claimed invention "***wherein said optical detector comprises at least one separate optical input sensor within said display element***".

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amare Mengistu whose telephone number is (703)305-4880. The examiner can normally be reached on M-F,T-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703)305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Amare Mengistu
Primary Examiner
Art Unit 2673

AM

Jan.22, 2005